

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

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(day/month/year) 17 -08- 2004

Applicant's or agent's file reference  
21013118

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/SE2004/000674

International filing date (day/month/year)  
04.05.2004

Priority date (day/month/year)  
07.05.2003

International Patent Classification (IPC) or both national classification and IPC  
D21H 21/14, D21H 17/72, D21H 17/20

Applicant  
Bim Kemi AB et al

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further opinions, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

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**WRITTEN OPINION OF THE  
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PCT/SE2004/000674

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1-20	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO

**2. Citations and explanations:**

The claimed invention relates to a crepe facilitating aqueous composition. The object of the invention is to reduce the disintegration of the web during creping, thus reducing dust formation, and promoting a more uniformly creped tissue product.

Reference is made to the following documents:

D1:US 5635028 A  
D2:US 6179961  
D3:US 6334931

Document D1 is considered to represent the closest prior art. D1 discloses a crepe facilitating composition comprising water soluble carboxymethyl cellulose, cationic starch and a bonding inhibitor. The composition is added to a slurry of papermaking fibres, the slurry is consolidated into a web, the web is creped and a tissue product is formed. The binding inhibitor is added in an amount of 0,02 to 1 weight percent based on the dry weight of the papermaking fibres, refer to claim 21 i). The use of a debonding inhibitor leads to a reduction in bonding and a softer paper.

In D1, the material added together with the water-soluble polymer contains fatty acids with long carbon chains (see column 8, lines 2-9) and it is dispersed in water at 76 °C (see column 19, lines 18-27). It is therefore assumed that this material is water-insoluble and thermoplastic.

The subject matter in claims 1-4, 8-9 and 16-20 differs from the composition in D1 in that the material added together with the water-soluble polymer is non-surface active and non-cationic. However, there is no evidence on file

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International application No.

PCT/SE2004/000674

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

which shows that this difference gives rise to a technical effect in view of D1, in terms of reducing the fibre disintegration and dust formation. Therefore, the subject matter in claims 1-4, 8-9 and 16-20 is not considered to involve an inventive step.

Moreover, there are no comparative examples in the application to conventional softeners.

D2 discloses the production of tissue with the addition of softening mixture. Wax and fatty acids, alcohols and esters are mentioned as equivalent softening agents (see column 2, lines 18-34). In view of this, it is considered obvious to a person skilled in the art to use waxes instead of fatty acids in D1. Thus, the composition defined in claim 5 does not involve an inventive step.

To use thermoplastic material with a particle size equal to or less than 5 or 1,5  $\mu\text{m}$  respectively is considered an obvious embodiment to a person skilled in the art. D3 discloses a softener containing fatty acids with a particle size of 0,685  $\mu\text{m}$  (see column 29, table 16). Thus, the composition according to claims 6 and 7 is not considered to involve an inventive step.

The subject matter in claims 10 to 15 is considered to comprise obvious embodiments in the art and there is no evidence that this subject matter gives rise to a technical effect in view of D1. Therefore, the subject matter in claims 10 to 15 is not considered to involve an inventive step.

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International application No.  
PCT/SE2004/000674

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

Application No.  
Patent No.

Publication date  
(day/month/year)

Filing date  
(day/month/year)

Priority date (valid claim)  
(day/month/year)

US 2004/006290 A1, P 01/04/2004 01/10/2002

2. Non-written disclosures (Rules 43bis.1 and 70.9)

Kind of non-written disclosure

Date of non-written disclosure  
(day/month/year)

Date of written disclosure  
referring to non-written disclosure  
(day/month/year)